Federation of Earth Science Information Partners

Making Data Matter

Federation of Earth Science Information Partners
Partnership Application

Please complete all sections to the fullest extent possible and forward completed application to: Carol Meyer, carol.meyer@earthsciencefoundation.org. If you have any questions, please contact her at 877.870.3747.

I. CONTACT INFORMATION

A. Primary Contact/Principal Investigator

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B. Designated Assembly Representative (could be same as above)

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II. ABOUT YOUR ORGANIZATION

   A.   ORGANIZATION/DIVISION/PROJECT NAME:

   Project: GEON: Geosciences Network (www.geongrid.org)

   B.   OVERVIEW OF YOUR PRIMARY ACTIVITIES (250 words or less)

GEON is an NSF-funded Information Technology Research (ITR) project. The goal of GEON is to advance the field of *geoinformatics* to prepare and train current and future generations of geoscience researchers, educators, and practitioners in the use of cyberinfrastructure to further their research, education, and professional goals. Geoinformatics will foster new interdisciplinary research, for example, the gravity modeling of 3D geological features, such as plutons; study of active tectonics by integrating LiDAR data and geodynamics models; and, study of lithospheric structure and properties across diverse tectonic environments.

GEON is based on a service-oriented architecture (SOA) with support for "intelligent" search, semantic data integration, visualization of 4D scientific datasets, and access to high performance computing platforms for data analysis and model execution -- via the GEON Portal.

While focused on Earth Sciences, GEON cyberinfrastructure is generic and broadly applicable to a variety of other sciences and other application domains.

   C.   Please list and briefly describe the primary product(s) or service(s) that your organization provides (will provide) to the community.

   GEON resources include:

   A GEON portal, which provides capability to "register" data and services; GEONsearch which enables search and discovery of these resources; a private workspace called, myGEON; access to several geosciences applications and tools.

   D. Please give a main website address for the proposed Partnership:

           Web Address: www.geongrid.org

III. HOW YOUR ORGANIZATION WILL BENEFIT FROM/CONTRIBUTE TO THE EARTH SCIENCE INFORMATION PARTNERS (ESIP) FEDERATION

A. Describe current or anticipated users of your products and services and how you think the Federation can help you better serve this population. (200 words or less)

GEON has been designed as an "integration platform" to integrate heterogeneous geoscience datasets, in support of research and education in the Earth Sciences. As such, the targeted user community includes all users in the earth science research and education community. Thus, as a member of the Federation, GEON will be able to reach a greater segment of this anticipated user community than otherwise.

B. Describe any Earth science technologies that you have developed and are willing to bring to the Federation's efforts to provide best-practices. (200 words or less)

Technologies related to ontology-based metadata and annotation of data; advanced data integration for geosciences; service-oriented architecture and specific applications and tools implemented as services, for Earth Sciences; advanced data visualization for 3D/4D data; Grid computing for Earth Sciences.

C. Describe how your proposed membership would contribute to the efforts and the mission of one or more standing committees, working groups and/or clusters. See Page 3 for descriptions of the different activities of the various standing committees, working groups, and clusters. (200 words or less)

GEON can contribute to a number of standing committees and clusters.
The GEON portal is designed for enhanced *Community Engagement*, with the goal of making "users out of non-users", i.e. reducing the hurdle for users (scientists/educators) to use datasets or tools that they really need, but have not been able to do so easily in the past.
GEON has conducted an annual Cyberinfrastructure Summer Institute for Geoscientists, since 2003. Lectures are webcast as well as saved as video archives. This will be a valuable contribution to the *Education* standing committee.
Since GEON is an IT research project, many of the activities in GEON will directly contribute to the *Information Technology and Interoperability* committee. Indeed, a major emphasis of GEON is to develop data integration technologies for Earth Science data.
Developing best practices for making data, metadata, and tools accessible to a broad community (not only those who are experts, but also the "non-users") is an important focus in GEON, as we attempt to bring resources online via the GEON portal. Thus, GEON activities can contributes to the activities of the *Products and Services* committee of ESIP.
GEON has developed significant new GIS technologies, which would be of interest to the *GIS Cluster*. This includes techniques for automatically "registering" shapefiles at the GEON portal, "on the fly" mapping, map integration for heterogeneous data, capability to crawl and automatically register WMS services, etc.
Also, the ontology-based registration and semantic integration technologies will be of interest to the *Intelligent Systems* cluster.

D. Describe your own use of Earth science information and data and how you would see this use enhanced by your partnership in the Federation. (200 words or less)

GEON is a collaboration between IT and geoscience researchers. As mentioned before, one of the goals of GEON is to register resources at the GEON portal and to make it easy to find resources and integrate data across heterogeneous data sources. Via ESIP, we

hope to discover more resources that can be registered in GEON, and also learn about extant best practices in the ESIP community.

IV. YOUR CHOICE OF MEMBERSHIP TYPE. PLEASE PICK ONE.

ESIP-I (primarily a data archive center) ⃝

ESIP-II (primarily a research center) ⦿

ESIP-III (primarily applications and education) ⃝

ESIP-IV (primarily a sponsoring member) ⃝

V. Any other comments about your proposed membership and its relation to the Federation that you wish to provide.

We believe that there is much mutual benefit to GEON and ESIP by GEON joining the ESIP federation. Many of our organizational goals are similar. By joining ESIP, GEON may get greater exposure to some segments of the Earth Sciences communities (e.g. agencies such as NASA, NOAA, etc) than we have focused on thus far. Conversely, GEON can bring valuable information technologies and a community portal that may be of interest to the members of the ESIP federation.

Thank you for your application for partnership in the ESIP Federation.

List of Federation Committees and Clusters

Administrative Committees

Executive Committee: Comprised of all standing and administrative committee chairs, ESIP Type Representatives, the President and Vice President of the Federation. Oversight body for most day-to-day activities of the Federation, acts on behalf of the Assembly between meetings.

Constitution and Bylaws: Provides counsel on matters related to the constitution and bylaws and other related issues (e.g. amendments to government documents)

Finance and Appropriations: Oversees financial resources of the Federation, including the annual budgeting process.

Partnership: Reviews and processes all applications for membership before making applications available for review by members of the Federation. Deals with other membership-related issues.

Standing Committees:

Commercial Development: Promotes a forum wherein commercial development of Earth science information can be fostered.

Community Engagement: Provides a forum for the Federation to promote partner products and to engage new users for data products and services.

Education: Provides a forum to make accessible to educators and learners at all levels in both formal and informal educational contexts the Earth science data, information, tools, and curricula available within the ESIP Federation.

Information Technology and Interoperability: Provides a forum for discussing information technology and interoperability issues of the Earth science community and serves as a central point for activities in this realm.

*Products and Servic*es: Provides a forum for defining best practices and defining requirements for earth science products and services. Currently is involved in developing an inventory of partner products and services.

Clusters (presently active, April 2005):

GIS

Intelligent Systems

Air Quality